

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
TIMOTHY N. TROP
TROP, PRUNER & HU, P.C.
8554 KATY FREEWAY, SUITE 100
HOUSTON, TX 77024

PCT

WRITTEN OPINION

(PCT Rule 66)

Applicant's or agent's file reference		Date of Mailing (day/month/year)	15 MAY 2003
ITL0784WO		REPLY DUE	
International application No.		within 1 months/days from the above date of mailing	
PCT/US02/15849		Priority date (day/month/year)	
International filing date (day/month/year)		Priority date (day/month/year)	
16 May 2002 (16.05.2002)		19 June 2001 (19.06.2001)	
International Patent Classification (IPC) or both national classification and IPC			
IPC(7): G03B 21/14 and US Cl.: 353/82			
Applicant			
INTEL CORPORATION			

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:

I	<input checked="" type="checkbox"/> Basis of the opinion
II	<input type="checkbox"/> Priority
III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input type="checkbox"/> Lack of unity of invention
V	<input checked="" type="checkbox"/> Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/> Certain documents cited
VII	<input type="checkbox"/> Certain defects in the international application
VIII	<input checked="" type="checkbox"/> Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 19 October 2003 (19.10.2003).

Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Russell E. Adams Telephone No. (703) 308-0956
---	--

Form PCT/IPEA/408 (cover sheet) July 1998)

Deborah P. Vega
 Paralegal Specialist
 Technology Center 2800
 (703) 308-3078

WRITTEN OPINION

International application No.

PCT/US02/15849

I. Basis of the opinion

1. With regard to the elements of the international application: *

- ☒ the international application as originally filed
- ☒ the description:
pages 1-9 _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the claims:
pages 10-18 _____, as originally filed
pages NONE _____, as amended (together with any statement) under Article 19
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the drawings:
pages 1-7 _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE _____
- ☐ the claims, Nos. NONE _____
- ☐ the drawings, sheets/Fig NONE _____

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

WRITTEN OPINION

International application No.
PCT/US02/15849

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>4, 5, 8-28, 34-39, and 42-45</u>	YES
	Claims <u>1-3, 6, 7, 29-34, 40, 41, and 46-48</u>	NO
Inventive Step (IS)	Claims <u>8-19, 37, and 45</u>	YES
	Claims <u>1-7, 20-36, 38-44, and 46-54</u>	NO
Industrial Applicability (IA)	Claims <u>1-54</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

WRITTEN OPINION

International application No.

PCT/US02/15849

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 38 is objected to as lacking clarity under PCT Rule 66.2(a)(v) because the claim 38 is not fully supported by the description. The application, as originally filed, did not describe: a switching means performing white point compensation.

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

V. 2. Citations and Explanations:

Claims 1-3, 6, 7, 29-34, 40, 41, and 46-48 lack novelty under PCT Article 33(2) as being anticipated by Huang.

FIG. 2 of the patent to Huang clearly shows a liquid crystal projection display system with the color wheel 114 allowing one color to pass continuously, while switching back and forth between the other two (col. 4 lines 12-17). The light is then separated by the polarizing beam splitter 122 into an s-polarization component and a p-polarization component which are then incident on the polarizing beam splitters 128 and 146 (col. 4 lines 36-39). The light is then modulated by two sets of liquid crystal modulators 130, 132 and 148, 150 for modulating the light. The polarizing beam splitter 138 then recombines the modulated light and the projecting lens 140 projects the image contained in the recombined light beam.

Referring specifically to claims 7 and 29, the limitation that the apparatus be used to provide a 3-D image to a viewer is considered to be intended use and is not given patentable weight.

Claims 4, 5, 20-28, 34-36, 38, 39, and 42-44 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Jung.

The patent to Huang fails to show a color switching means disposed after the separating polarizing beam splitter 122 in the optical path. Instead the color switching is done prior to separation by the color wheel 114 (see FIG. 2). However, the patent to Jung, in FIG. 2, clearly show the color wheel 173 being disposed after a separating polarizing beam splitter 130, in a reflection projector type apparatus that separately modulates the s and p components of a light beam. Therefore, it would have been obvious to one skilled in the art to provide color switching means in a system, like the one disclosed by Huang, in the optical light paths leaving the separation polarizing beam splitter, as is shown by Jung to be well known, as an art recognized alternative to the color switching means of Huang located before the separation polarizing beam splitter.

Regarding claims 26-28, the patent to Huang is silent concerning the use of a three color switching means. But the color wheel 170 found in FIG. 2 of Jung is a three color switch. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to replace the two color switch of Huang with the three color switch of Jung as an art recognized equivalent.

Referring specifically to claim 36, the limitation that the apparatus be used to provide a 3-D image to a viewer is considered to be intended use and is not given patentable weight.

Claims 51-54 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Li.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

As in claims 49 and 50, neither Huang, nor Jung teaches of the use of plate polarizers in the place of the polarizing beam splitters 122 and 138. Li shows that the use of plate polarizers as polarizing beam splitters was well known at the time of the invention (col. 1 lines 30-35). In light of the teachings of Li, it would have been obvious to replace the polarizing beam splitting prisms of Huang with plane polarizers as is taught by Li.

Claims 49 and 50 lack an inventive step under PCT Article 33(3) as being obvious over Huang as applied above in view of Li.

In the patent to Huang, the polarizing beam splitters 122 and 138 are shown as prisms, and not plate polarizers. Li shows that the use of plate polarizers as polarizing beam splitters was well known at the time of the invention (col. 1 lines 30-35). In light of the teachings of Li, it would have been obvious to replace the polarizing beam splitting prisms of Huang with plane polarizers as is taught by Li.

----- NEW CITATIONS -----

US 6,144,420 (Jung) 7 November 2000 (2000-11-07) see entire document

US 6,309,071 (Huang et al.) 30 October 2001 (2001-10-30) see entire document

US 5,982,541 (Li et al.) 9 November 1999 (1999-11-09) see entire document